

CLAIMS

What is claimed is:

1. A system for calibrating and positioning a radiation therapy treatment table of a radiation therapy system comprising at least one radiographic indexing marker included in the radiation therapy treatment table for precisely locating and calibrating the radiation therapy treatment table in three-dimensional space.
2. The system of claim 1, wherein the at least one radiographic indexing marker has a density different from the density of the radiation therapy treatment table material.
3. The system of claim 1, wherein the at least one radiographic indexing marker is detectable by the radiation therapy system.
4. The system of claim 1, wherein the at least one radiographic indexing marker is actual material having a density different from the density of the radiation therapy treatment table material and detectable by the radiation therapy system.
5. The system of claim 1, wherein the at least one radiographic indexing marker is a void or the absence of material having a density different from the density of the radiation therapy treatment table material and detectable by the radiation therapy system.
6. The system of claim 1, wherein the at least one radiographic indexing marker is made of a high density material.
7. The system of claim 1, wherein the at least one radiographic indexing marker is made of a low density material.

8. The system of claim 1, wherein the at least one radiographic indexing marker is permanently fixed in the radiation therapy treatment table.

9. The system of claim 1, wherein the at least one radiographic indexing marker is removable from the radiation therapy treatment table.

10. The system of claim 1, wherein the at least one radiographic indexing marker is embedded or inlaid into the sides, top, or bottom of the radiation therapy treatment table.

11. The system of claim 1, wherein the at least one radiographic indexing marker is embedded or inlaid into the surfaces of the radiation therapy treatment table.

12. The system of claim 1, wherein the at least one radiographic indexing marker is flush with the sides and surfaces of the radiation therapy treatment table.

13. The system of claim 1, wherein the at least one radiographic indexing marker is an indentation or groove in the radiation therapy treatment table.

14. The system of claim 1, wherein the at least one radiographic indexing marker is a protrusion from the radiation therapy treatment table, wherein a patient fixation device may be connected to the protrusion.

15. The system of claim 1, wherein the at least one radiographic indexing marker is magnetic and sensors may be used for positioning a patient and/or a fixation device.

16. The system of claim 1, wherein the at least one radiographic indexing marker is a laser.

17. The system of claim 1, wherein the at least one radiographic index marker is an RF emitter.
18. The system of claim 1, wherein the at least one radiographic index marker is an RF detector.
19. The system of claim 1, wherein the at least one radiographic index marker is a solid.
20. The system of claim 1, wherein the at least one radiographic index marker a disjoint solid.
21. The system of claim 1, wherein the at least one radiographic index marker is a liquid.
22. The system of claim 1, wherein the at least one radiographic index marker is interchangeable with different sets or subsets of markers utilized for different objectives.
23. The system of claim 1, wherein the at least one radiographic index marker is used to send and receive signals with other fixtures to detect changes in table height or deformations, such as sags, and automatically, semi-automatically, or manually adjust the table position before or during radiotherapy treatment procedures.
24. The system of claim 1, wherein the at least one radiographic index marker is used for calibration and verification of table speed, table position and virtual isocenter.

25. A system for precisely locating the position of a radiation therapy treatment table of a radiation therapy system comprising at least one radiographic indexing marker included in the radiation therapy treatment table.

26. A system for positioning a radiation therapy treatment table comprising a substantially flat member that includes at least one radiographic indexing marker and is mountable to the radiation therapy treatment table.

27. A method of precisely locating the position of a radiation therapy treatment table of a radiation therapy system, the method comprising the steps of embedding or inlaying at least one radiographic indexing marker into the patient treatment table.

28. The method of claim 27 wherein the at least one radiographic indexing marker has a density different from the density of the radiation therapy treatment table material.

29. The method of claim 27 wherein the at least one radiographic indexing marker is detectable by the radiation therapy system.

30. The method of claim 27 wherein the at least one radiographic indexing marker is used for detecting the precise location of the radiation therapy treatment table in three-dimensional space.